
Why Do People Give?

An Empirical Study on the Motives and Characteristics behind Individual Charitable Giving in England.

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I. INTRODUCTION

Charitable giving has been a topic of huge interest amongst academics, governmental bodies, the general public and in particular, charity organisations themselves. Understanding the giving behaviour will enable various stakeholders to fulfill their goals and commitment to the charitable sector. Unfortunately, despite widespread debate on the subject, the explanation for the act of giving is still incomplete.

Based on the rational choice theory of fixed preferences, economic agents are utility maximisers who act rationally out of self-interest and desire for wealth. Under such circumstances, why will any rational agent choose to donate monies to another and not receive any goods or services in return? In other words, why will “a person choose to make themselves poorer in order to make someone richer?” [Bracewell-Milnes, 1990]. Early studies of charitable giving have classified donations as a pure public good¹ to explain the paradox of giving. Becker (1976) introduces the model of “pure altruism” as a motive which explains that personal utility can increase due to an increase in the consumption of others. Building on Becker’s model, Andreoni (1989) proposes that economic agents can also derive immaterial benefits from the act of giving - a benefit he terms ‘the warm-glow effect,’ which leads to the theory of “impure altruism.” Such being the case, donations can be treated as a consumption of a private good since donors experience additional utility from the act of giving. In addition, socioeconomic characteristics of an individual have been explored in recent years to explain charitable behaviour.

While there is extensive theoretical literature explaining charitable behaviour, there is no consensus amongst economists in the areas of empirical treatment. Majority of empirical analyses focus mainly on the influence of socioeconomic characteristics on charitable behaviour and have largely disregarded the impact of motivations on giving. It is

¹ Charitable giving is non-excludable because output of donations is available to all and non-rivalrous because one’s consumption of the good does not reduce the amount available to others.

reasonable to assume that one reason for the focus on socioeconomic characteristics may be due to limitations in finding relevant proxies for the observation of motives in survey data. Lee et al. (1995) comments that the use of the Family Expenditure Survey (FES²) to define giving is too narrow in scope due to a lack of specific questions about the subject. Hence, the omission of motivational factors can result in a biased model that explains giving.

This paper aims to validate the economic theory of charitable giving and improve on predecessor empirical models on giving by presenting both the motivational factors and the socioeconomic characteristics of the donor to provide a holistic answer to the question: why people give. This paper also aims to reassert and update the philanthropic landscape in England because the study of giving behaviour has stagnated after considerable discussions in the nineties [Jones & Posnett, 1991; Jones & Marriott, 1994; Pharoah & Tanner, 1997; Banks & Tanner, 1999]. In contrast, there is an increasing global trend of papers in the last decade discussing the charitable giving of USA [Yen, 2002; Van Slyke & Brooks, 2005; Gittell & Tebaldi, 2006] and significant emergence of papers highlighting Europeans' behaviour [García & Marcuello, 2001; Brooks, 2003] and Asians' behaviour [Park & Park, 2004; Chang, 2005].

In the following sections, we will investigate the effects of individuals' motives and socioeconomic characteristics on charitable donations using data from the National Survey of Volunteering and Charitable Giving (NSVCG) 2006/07 through econometric analysis. Section II introduces the economic theory of charitable giving based on frameworks developed by Becker (1976), Andreoni (1989 & 1990), Bergstrom *et al.* (1986) and Warr (1982) to understand how income, price of giving, altruism, egoism and socioeconomic characteristics determine an individual's utility with respect to charitable giving. Following that, justifications for the use of NSVCG data and explanatory variables will be described

² FES is an annual survey covering approximately 7,000 households on household expenditures carried out by the Office for National Statistics.

in Section III. Section IV focuses on the methodology that analyses individual giving behaviour, specifically the factors behind donor's decision to give and donation amounts. Section V evaluates the results of analysis. Finally, Section VI concludes the findings with policy implications and recommendations for governmental bodies and charitable organisations.

II. ECONOMIC THEORY

We begin by describing a simple treatment of Becker's (1976) pure altruism public good model to explain charitable behaviour. Consider an economy with only one private good and one public good such that individuals endowed with wealth, w_i , can allocate their budget between the consumption of private good, x_i , and their donations to public good, d_i . Assume price of each good is unity. The economic agent faces a budget constraint:

$$x_i + d_i = w_i \quad [1]$$

Assuming agents are utility maximisers and that their decision to donate is dependent on the donations of others due to donations being a public good, the utility function of an agent can be represented as:

$$U_i = U_i(x_i, D) \quad \text{Let } i=1, 2, 3, \dots, n \quad [2]$$

where U_i is assumed to be strictly quasi-concave, $D = \sum d_i$ is the total amount of individual donations in the economy and n is the total number of individuals. D can also be represented as $d_i + D_{-i}$ where D_{-i} is the amount of donations by everyone else except agent i . At Nash equilibrium, each agent assumes that others will maintain their level of donations regardless of his/her own. Thus, D_{-i} can be added on both sides of budget constraint [1]. Hence, the agent's maximisation problem can be defined as:

$$\text{Max}_{x_i, D} U_i = U_i(x_i, D) \text{ s.t. } x_i + D = w_i + D_{-i}, D \geq D_{-i} \quad [3]$$

By substituting the budget constraint into the utility function, the individual demand function for donations can be written simply as:

$$D = f_i(w_i + D_i) \quad [4]$$

after solving the first order conditions of the agent's problem. In this case, the agent's motive for donating is said to be purely altruistic. Here, we define pure altruism as acting out of concern for others only.

In addition, Feldstein and Clotfelter (1976); Reece (1979); Reece and Zieschang (1985); Chung, Chua and Vasoo (1998) have extended the above model to include the role of taxes in explaining giving as a function of income and tax price of giving. The tax price of giving, p_i , is defined as the price paid by the agent for donations under a tax system that allows the agent to deduct a portion of his contribution, s_i , from his marginal tax rate, t_i . Hence, the effective price p_i of giving £1 is:

$$p_i = 1 - s_i t_i \quad [5]$$

where t_i satisfies the inequality $0 \leq t_i \leq 1$. Incorporating this idea into the utility function of [2], we can say that an individual will make a donation $d > 0$ if

$$U_i(w_i - p_i d_i, d_i + D_i) > U_i(w_i, D_i) \quad [6]$$

Apart from altruistic motive to give, Andreoni (1990) postulates that an individual's motive to give can also be purely egoistic. In this case, the utility function of an individual is said to be of the form:

$$U_i = U_i(x_i, d_i) \quad [7]$$

This personal benefit obtained by the giving individual is also known as the warm-glow effect. The experience of positive psychological well-being from giving is widely acknowledged in the literature. For instance, individuals' desire to receive social acclaim [Becker, 1974]; signal wealth status [Glazer & Konrad, 1996]; gain prestige [Harbaugh, 1998] and motivation by guilt [Lazear, Malmendier & Weber, 2005] are examples of possible warm-glow effect. Combining the motives of altruism and egoism, Andreoni (1990) proposes the theory of impure altruism where individual donations, d_i , enters the utility function twice:

$$U_i = U_i(x_i, D_i, d_i) \quad [8]$$

Brooks (2003) suggests including the vector Z_i of socioeconomic characteristics may also affect the utility derived from giving. Utility is thus characterised as:

$$U_i = U_i(x_i, D_i, d_i, Z_i), \quad [9]$$

and hence, an individual will contribute $d > 0$ if,

$$U_i = U_i(w_i + p_i d_i, d_i + D_{-i}, d_i, Z_i) > U_i = U_i(w_i, D_{-i}, 0, Z_i) \quad [10]$$

We have now established the complete framework that this paper will adopt to explain charitable behaviour in England. In particular, this paper seeks to estimate a variant of the equation:

$$d_i = \alpha + f(w_i) + g(p_i) + M_i \mu + Z_i + \epsilon_i \quad [11]$$

where $f(w_i)$ is a function of wealth, $g(p_i)$ is a function of tax price of giving, M_i is a $1 \times K$ vector of motivation regressors, μ is a $K \times 1$ vector of parameters, Z_i is a $1 \times H$ vector of socioeconomic regressors and ϵ_i is a $H \times 1$ vector of parameters, and ϵ_i is the random disturbance in the model. The motivation regressors considered in this paper are altruism and egoism proxies using relevant data from the NSVCG. In general, most authors measure wealth variable, w , in terms of personal annual income and include other possible wealth variables such as ownership of cars, houses and shares in vector Z of socioeconomic characteristics [Jones & Marriott, 1994; Banks & Tanner, 1999; Chua & Chung, 1999; Yen, 2002; Gittell & Tebaldi, 2006].

III. DATA

a. Overview of NSVCG³

The NSVCG 2006/07 is a survey with a primary focus on enhancing individual's experiences and attitudes towards volunteering and charitable giving in England.

b. Spectrum of Charitable giving

³ See **Appendix 1** for full details of NSVCG.

We will focus primarily on respondents who have given to charity in the last month prior to the interview and stated their donations amount. After examining the data closely and accounting for missing values, there are 2,633 respondents who fit the criteria. This represents the working sample size for this research. **Table 1** gives a summary of the giving characteristics of the sample.

Table 1. Charitable giving in the sample of the NSVCG 2006/07.

Type	Number of Individuals	Percentage ^a	Total Donation ^b	Average Donation ^c
Donor	2059	78.20%	£70,410.61	£34.20
Non-givers	574	21.80%	0	0
All Individuals	2633	100%	£70,410.61	£26.74

^a type of individual as a percentage of total individuals.

^b per month.

In total, 78.2% of respondents have donated in the last month. This percentage is significantly higher than traditional household findings (range from 29.0% to 34.0%) using the FES [Jones & Posnett, 1991; Jones & Marriott, 1994; Pharoah & Tanner, 1997; Banks & Tanner, 1999]. Possible reasons for the disparity can be due to differences in methodologies and definitions. Past papers have measured donations on a weekly basis instead of monthly basis, so it is possible that people can and will donate more as the timeframe is increased. As noted by Banks & Tanner (1999), the 1993 Individual Giving Survey (IGS⁴) recorded “nearly 80% of individuals” giving to charity over the previous month. More recently, in the UK Giving Report 2007, 54% of individuals in 2006/07 gave to charity. This result is much closer to the one reported in the NSVCG. The high proportion can be attributed to the increasing awareness of the presence and work of charity organisations over the last decade, thus, resulting in greater inclination to donate. In terms of definitions, the FES does not include gifts such as purchases in charity shops and raffle

⁴ IGS is an annual survey covering approximately 1,000 individuals carried out on behalf of NCVO.

tickets. Lee *et al.* (1995) comments that FES may not capture “all one-time, small donations.” Another consideration for high proportion reported is that the NSCVG is conducted at year-end which coincides with festivities like Christmas and New Year. Carroll *et al.* (2005) finds that donations reported in December are significantly higher than other months. However, Banks & Tanner (1999) comment that specialised charitable giving survey run the risks of telescoping and having non-random response rate. To mitigate such effects, greater scrutiny has been applied to the examination of the data. Focusing on individual’s past month experience instead of past year is one instance of reducing such risks. Overall, we can be confident that the data reported in NSVCG can be taken as consistent and accurate, thus allowing us to effectively investigate individual giving behaviour.

c. **Dependent Variables**

From **Table 1**, we observed that the total monthly donations recorded in the survey is £70,410.61 which translates into £34.20 per donor per month or £26.74 per individual per month. We define “*Donor*” as an individual who has donated to charity in the last month and “Non-givers” as individuals who did not. Hence, the variables “*DONOR*” and “*DONATIONS*” will be the two main dependent variables to be estimated subsequently to explain why people give.

d. **Explanatory Variables**

1. **Motivational Factors**

One of the aims of the paper is to validate the economic theory of “Impure Altruism” using real-life empirical evidence. The theory posits that the motives behind charitable giving is key to understanding the phenomenon of giving. Unlike other data, the NSVCG allows us to investigate the motives of donors through a specific question about giving. The precise question is:

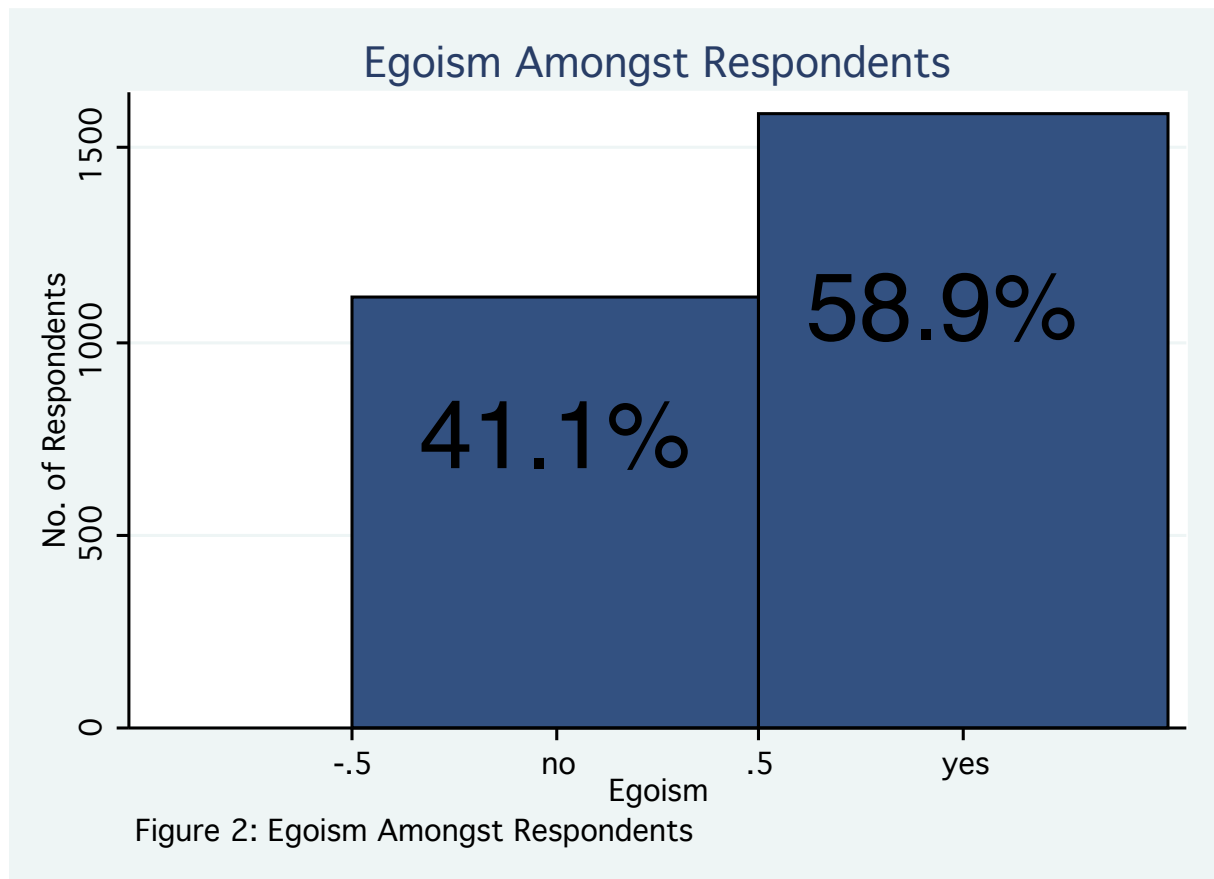
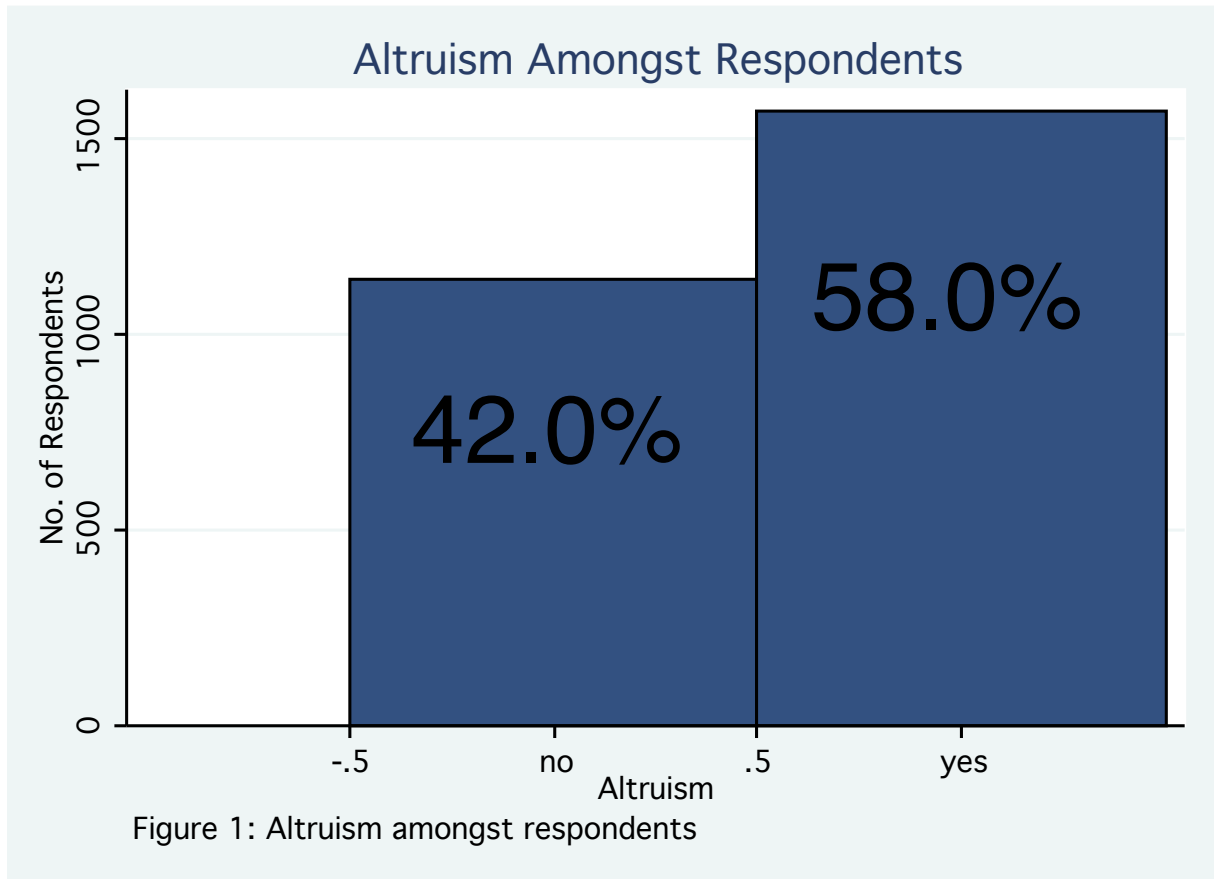
People have a range of different reasons for why they give to charity. Here is a list of some of the different reasons people have given. What, would you say, are your main reasons for giving to charity?

It is possible to utilise the various responses recorded to proxy motivational factors like *altruism* and *egoism*, which are the main motives described in the theory. Altruism is defined as the selfless concern for the well-being of others [Ireland, 1973; Ray, 1998; Amos, 1982; Ranganathan & Henley, 2008]. On the contrary, egoism is often distinguished by self-interested gains or benefits [Smith *et al.*, 1995; Schokkaert & Van Ootegem, 2000; Chang, 2005]. This, however, does not necessarily mean that egoism is antonymous to altruism. Hence, if an individual demonstrate altruism and egoism preferences at the same time, he is said to display impure altruism [Andreoni, 1990].

Using my personal judgment and existing literature [Bekkers & Wiepking, 2007], positive responses to reasons such as “saw information about charity and its work,” “feel like giving,” “work of charity is important,” and “no other way to fund charity” indicates altruism. On the other hand, positive responses to “asked by someone I know,” “right thing to do,” “expected of me,” “uncomfortable refusing,” “makes me feel good,” “may benefit,” “something happened to me,” “financial reasons” and “goods I want” indicate egoism. For a complete description of reasons, refer to **Appendix 1. Figure 1** and **2** present altruism and egoism amongst respondents respectively.

2. Socioeconomic Factors

Another aspect of this paper is to investigate the effects of socioeconomic factors on charitable giving. From the social demographics point of view, characteristics such as age, gender, marital status, having children, religiousness, volunteerism, race and education level are considered. In particular, it will be interesting to note the effect of volunteerism on charitable giving to observe if people who volunteer substitute time for



money or if the two entities are complementary [Andreoni *et al.*, 1996].

Economic or wealth variables such as income, employment and managerial position are also taken from the data to analyse individual giving. It is worth mentioning that we do not have a variable that measures price of giving, which is a component of the theory presented above, due to data limitation. Nevertheless, there is potential omission variable bias in our empirical model. To mitigate the bias, the income variable is subdivided into three dummy variables that is in accordance to the taxable bands in the UK: *highincome*, *lowincome* and *noincome* to take both income and price effects into account. In the UK, only individuals belonging to the high marginal tax rate can enjoy tax deductibility from their donations.

Table A2 in **Appendix 2** describes the complete list of variables used in this analysis. **Table A3** in **Appendix 3** illustrates the summary statistics of these variables.

IV. METHODOLOGY

a. Justifications

As stated earlier, “*Donor*” and “*Donations*” will be the main dependent variables being estimated. We will use 2 separate models to determine the motivational and socioeconomic effects on individual’s decision to donate and donation amounts. This is reasonable because factors that affect an individual’s decision to donate can be significantly different from the factors that affect how much he/she gives [Bergstrom *et al.*, 1986; Pharoah & Tanner, 1997].

One common difficulty in analysing charitable giving is well-reflected in the literature as the large prevalence of zero observations for donations⁵. Most economists will choose to adopt other regression methods instead of the standard Ordinary Least Squares (OLS) method to reconcile the bias and asymptotic errors posed by the problem. One widely-

⁵ As mentioned earlier, past research recorded low proportion of giving.

used method is the Tobit model⁶. While the Tobit technique is theoretically sound, the underlying assumptions are subjected to validation [Jones & Posnett, 1991]. In addition, the inferiority of the Tobit specification is further exemplified as it disallows the explanatory variables that affect the decision to give to be different from donations amounts. An alternative approach is the Heckman two-step model⁷. The Heckman method allows explanatory affecting giving and giving amounts to differ and eliminates the sample selection bias posed by Tobit model. Despite its merits, the Heckman method is susceptible to failures. Nawata (1994) notes that “Heckman’s estimator sometimes performs poorly.” Without the presence of exclusion restrictions⁸, Heckman model runs the risk of collinearity problem [Puhani, 2000]. Davidson & Mackinnon (1993) recommends using the Heckman procedure only to test for the presence of selectivity bias; if selectivity is not a problem, we are able to use least squares method as usual. Since the NSVCG data reports a high proportion of givers, we will adopt the reasonable and pragmatic approach of conducting a Probit regression analysis on an individual’s decision to give and a subsample OLS regression analysis on the positive level of donations. Although the method may be biased, it is the most robust amongst the simple-to-calculate estimators [Puhani, 2000].

b. Models

Recall equation [11] in section II. We evaluate the determinants of individuals decision to donate by estimating the following Probit model:

$$Pr(d_{1i}=1|w_{1i}, w_{2i}, M_{1i}, M_{2i}, Z_i) = \Phi(\alpha_i + \beta_1 w_{1i} + \beta_2 w_{2i} + \mu_1 M_{1i} + \mu_2 M_{2i} + Z_i) \quad [12]$$

⁶ Tobit model was created by James Tobin (1958). According to Amemiya (1984), Tobit analysis refers to regression analysis in which the range of dependent variable is ‘constrained.’ This model has been used by Reece (1979); Jones & Marriott (1994); Carroll *et al.* (2005).

⁷ Heckman model was created by James Heckman (1979). This model has been used by Jones & Posnett (1991); Smith *et al.*, (1995); Banks & Tanner (1999).

⁸ Exclusion restrictions refer to variables that are included in the selection equation but not in the outcome equation. Including these variables without appropriate testing, Heckman estimators may perform poorly [Puhani, 2000].

where d_{1i} =Donor, w_{1i} =Highincome, w_{2i} =Noincome, M_{1i} =Altruism, M_{2i} =Egoism, Z_i is the vector of other socioeconomic variables. The 'pseudo- R^2 ,' likelihood ratio statistic and the expectation-prediction evaluation will be the measures of fit⁹ for the Probit Model. Coefficients of model have no natural interpretation of the variables, hence, marginal effects of all variables will be presented in the following section.

The subsample OLS regression model for the positive individual donations is as such:

$$d_{2i} = \alpha_i + \beta_1 w_{1i} + \beta_2 w_{2i} + \mu_1 M_{1i} + \mu_2 M_{2i} + Z_i + \varepsilon_i \quad [13]$$

where d_{2i} =logarithm(Donations), variables (w_{1i} , w_{2i} , M_{1i} , M_{2i} , and Z_i) are the same as [12] and ε_i is the error term. The ' R^2 ,' and the 'adjusted R^2 ,' will be the primary measures of fit for the OLS model. The results of the RESET test and test for heteroskedasticity in the residuals will be presented in section V.

c. Correlation Matrix

Table A4 in **Appendix 4** reports the correlation matrix of all variables. It is observed that there is no strong correlation between any explanatory variables, thus, this shows no clear interdependence between them. The only exception is that *highincome* is strongly negatively correlated to *lowincome*. Overall, the estimates using the above models will be unbiased and precise to a large extent.

V. EMPIRICAL MODELS AND RESULTS

Regressions using the NSVCG data are presented in this section. **Table 2** illustrates the results for individual's decision to give and the amounts donated.

a. Robustness check

P-value of LR-statistic is zero for Probit model, suggesting that all slope coefficients are jointly significant. The estimated Probit model represents a total gain of 12.45% over

⁹ Amemiya (1981) recommends considering more than one measure to mitigate its shortcomings.

the constant probability model with rule 0.782¹⁰. This change represents a 57.10% improvement over the prediction of the default model.

Similarly, for the OLS model, all slope coefficients are jointly significant. Residuals in the OLS model are found to be homoskedastic at 5% significance level. The OLS model is able to explain 13.2% of the variation in the level of individual donations and has passed the RESET test at 5% significance level¹¹.

Overall, the empirical models are robust and display significant explanatory power. However, we were unable to conduct the Heckman sample selection bias test as recommended by Davidson & MacKinnon (1993) to test for such bias. This is due to the lack of information with regards to the criteria for exclusion restrictions in the donative literature. Substituting any random variable as exclusion restrictions would significantly undermine the power of the test [Puhani, 2000].

b. Interpretations

1. **Motivational Regressors**

Altruism and egoism are found to explain both the decision to give and donation amounts significantly. This result validates the prediction of the theory of “impure altruism,” which means that giving individuals often experience mixed altruism instead of the extreme cases of pure altruism and egoism. From **Table 2**, we observe that the marginal effect of altruism is slightly greater than the effect of egoism. If we assume a mixed altruism framework, we can suggest that altruism may be the more dominant factor in encouraging an average individual to give. Coincidentally, altruism is observed to have the greatest impact on the decision to give. At sample mean, an altruistic person is 156.30 percentage points more likely to give than a non-altruistic individual. The implication of egoism’s significance is that private donations will not be crowded out by government’s

¹⁰ See **Table A5** in **Appendix 5** for the Expectation-Prediction Evaluation for Probit model.

¹¹ See Appendix 6 for the results of Heteroskedasticity test and RESET test.

Table 2: Individual charitable donations using NSVCG data

Dependent Variables: Donor and Log(Donations)			
	Probit Regression (Obs=1636)		Subsample OLS Regression (Obs=1343)
Explanatory Variables	Coefficients	Marginal Effects	Coefficients
Altruism	1.5630*** (0.1133)	0.2542	0.1634** (0.0743)
Egoism	1.5383*** (0.1106)	0.2491	0.1392* (0.0738)
HighIncome	-0.0988 (0.1474)	-0.0118	0.1903** (0.0956)
NoIncome	-0.2577 (0.3818)	-0.0354	0.2312 (0.2672)
Male	-0.1762* (0.1071)	-0.0202	-0.0634 (0.0688)
Age	0.0023 (0.0047)	0.0003	0.0108*** (0.0031)
Married	-0.0122 (0.1163)	-0.0014	-0.1512** (0.0720)
Child	0.0396*** (0.1182)	0.0044	0.0300 (0.0749)
Ethn_w	0.2817** (0.1181)	0.0356	-0.1183** (0.0838)
Religious	0.0505 (0.1131)	0.0056	0.3450*** (0.0721)
Volunteer	0.0760 (0.1068)	0.0087	0.3313*** (0.0690)
Employed	0.3662*** (0.1239)	0.0481	0.0837 (0.0834)
Manager	0.2413** (0.1202)	0.0272	0.1225 (0.0775)
Edqual_1	-0.5280* (0.3138)	-0.0802	0.8834*** (0.2131)
Edqual_2	-0.4043 (0.3026)	-0.0553	0.6983*** (0.2045)
Edqual_3	-0.2499 (0.3046)	-0.0323	0.5818*** (0.2030)
Edqual_4	-0.0713 (0.2967)	-0.0084	0.3692* (0.2002)
Edqual_6	-0.0107 (0.2920)	-0.0012	0.5333*** (0.1979)
Edqual_7	-0.1904* (0.3394)	-0.0247	0.2939 (0.2427)
Edqual_8	0.1908 (0.4211)	0.0186	0.2754 (0.2891)
Constant	-0.7987** (0.3908)	-	1.1735*** (0.2762)
Summary Statistics	Pseudo R-squared = 0.4814		R ² = 0.132; Adjusted R ² = 0.1189
	Log Likelihood = -398.7870		Prob > F = 0
	Prob(LR statistic) = 0		Root MSE = 1.1784

Standard errors are given in parentheses under coefficients. Individual coefficients are statistically significant at the *10%, **5% or ***1% level.

initiatives for the industry as donations do not adhere to the pure public good model.

2. Socioeconomic Regressors

In line with previous research [Jones & Posnett, 1991; Pharoah & Tanner, 1997], we found that having children, being employed and holding managerial positions in workplace impacts the decision to give positively. Amongst the three variables, being employed has the biggest impact on the decision to give. At sample mean, the percentage point increase in giving is 4.81 for employed individual relative to unemployed individual. Males, on the other hand, tend to donate 2.02 percentage points less than females. All four variables are not significant in encouraging individuals to give more. These variables appear to be possible candidates of exclusion restrictions for the Heckman selectivity bias test. Nonetheless, further testing has to be done to validate the claim.

Contrary to past results, variables like age, marital status, religiousness, volunteerism is not significant in affecting individual's decision to donate. These differences could be attributed to inconsistent estimates. Age, Volunteer and Religious variables, however, are positively significant on the amounts individuals give. The coefficient on age implies that a year increase in an individual's age is associated with 1.08% increase in donations.

One interesting result to note is the effects of Highincome on giving. Individuals in the high income bracket does not have an effect on individual's probability of giving but when the decision to give is made, they have a positive impact on donations. This result is also reported by Smith *et al.* (1995). One possible explanation is that some people simply do not give regardless of income status. The absence of tax price of giving may have led to inconsistent estimates as well. The coefficient of highincome implies that monthly donations increase by 19.03% for individuals with high income over individuals with low income. This is reasonable as high income earners have a greater ability to give bigger amounts.

Another interesting finding is the effects of higher education attainment, specifically higher degrees or postgraduate degrees, on giving. At sample mean, highly educated individuals (Edqual_1) are 52.8 percentage points less likely to donate relative to its counterparts. However, when they give, their positive impact on amounts donated is the greatest. Hence, charities should focus their marketing efforts on these individuals to increase their probability to donate as the coefficient suggests that monthly donations increases by 88.34% for individuals with high education attainment over individuals without. One explanation is that highly educated individuals are likely to be more aware and informed about the works of charity, thus, they may have reservations or stringent guidelines about who they give to. Charities would have to ensure credibility and high professional standards to garner donations from these individuals.

VI. CONCLUSION

a. Findings

Overall, the results generated from the use of NSVCG data has enabled us to bridge the gap between theoretical and empirical findings of charitable giving. Broadly speaking, we have found significant evidence in our results to validate the theory of “impure altruism” in the giving behaviour of individuals in England. Apart from the absence of tax price of giving, we found that high income, altruism, egoism and socioeconomic factors such as gender, age, marital status, having children, race, religiousness, volunteerism, employment, work position and education attainment do affect giving. Altruism is found to have the biggest impact on the decision to give and higher education attainment has the biggest impact on donations amounts. Hence, the empirical method adopted here is useful to the understanding of giving in the English society.

b. Strategies

The evidence that government provision of charitable gifts do not crowd out private contributions is a signal for government to facilitate giving further. The government should continue to extend the range of tax deductibility for donations in England. This can be done by extending the benefits of tax deductibility to low income earners on payroll giving. The government can also simplify the declaration process for Gift Aid¹² to encourage giving.

On the other hand, charitable organisations ought to maintain a positive brand image to the public as exemplified by Oxfam and the Red Cross. With a positive image, people will feel more confident donating to the causes of the organisation. This will be effective in attracting the generous donations of highly educated individuals. Charities should harness the advancement of information technology such as the Internet as a fundraising tool. The Disasters Emergency Committee's record breaking Asian Tsunami Appeal in 2004 is a successful example.

c. Limitations

The absence of tax price of giving which is well-documented in numerous literature may introduce omitted variable bias in the models proposed above even though the model passed the RESET test. Although there is no conclusion on whether tax price of giving, and volunteering times, it is worth investigating in future studies to achieve a better statistical fit for the empirical models explaining charitable giving.

The internal validity of the models can be substantiated by its results which are mostly consistent with previous UK studies. However, it may not be as straightforward when judging its external validity. It must be noted that the tax structure, culture and behaviour of people can differ from one location to another. Thus, it may be foolhardy to apply the findings here to the charitable behaviour of people globally.

¹² Gift Aid is an initiative by the British government which allows charity to reclaim tax to increase the value of donation.

Despite having a high proportion of donors, the models may still be susceptible to sample selectivity bias. The lack of treatment to test for the bias may cause estimates to be inconsistent and biased.

d. **Recommendations**

For further studies in the economics of philanthropy, it would be useful to include more continuous measures of giving rather than binary choice variables so that the regression estimates can be used to judge the intensity of giving and generate elasticities values [Brooks, 2003].

Brooks (2003) also suggested using expenditures as a more accurate measure of income instead of wage income as current wage income is exposed to “effects of shocks to wealth and expectations.”

Therefore, this paper can only serve as a stepping stone for in-depth studies of charitable giving. Understanding the complete giving relationship will enable policy makers and charities to better serve the interest of the general public, in particular, the recipients of these gifts.

Word Count: 4,997

Appendix 1

Details of NSVCG

National Survey of Voluntary and Charitable Giving 2006/07 is a follow-up study to the 2005 Citizenship Survey and has been carried out by the National Centre for Social Research (NatCen) in partnership with the Institute for Volunteering Research (IVR). It was done on behalf of the Office of the Third Sector in the Cabinet Office. Fieldwork ran from the end of October 2006 until the middle of February 2007. In total, 2,705 productive face-to-face interviews were conducted during that period, giving a response rate of 60%. To ensure minority ethnic groups are well represented in the survey, a separate boost sample was designed to supplement the number of Black and Asian respondents interviewed. This boost sample recorded a 51% response rate with 549 respondents. It should be noted that there is a potential risk of selection bias in the survey as it does not include individuals who refused to take part in the survey.

Charitable gifts, in the context of the survey and this report, is defined broadly and extensively to capture the entire spectrum of individual giving. These gifts include purchases at charity shops and raffle tickets; donations by payroll giving, direct debit, standing order, covenant, cheques, credit and debit cards; contributions to places of worship, museums, galleries, people begging on streets, charitable organisations, fundraising events; sponsorships, tin collections and door-to-door collection.

Complete list of reasons to giving in NSVCG.

1. Because of an appeal or campaign in the newspaper, radio or TV
2. A representative of the charity asked me^b
3. I received or saw information about the charity and its work^a
4. I was asked by someone I know^b
5. I just feel like giving^a
6. I can afford to
7. It's the right thing to do^b
8. I feel it's expected of me^b
9. I feel uncomfortable refusing when asked^b
10. Giving makes me feel good^b
11. Because of my religion
12. Because it may benefit a relative/friend/myself in the future^b
13. As a result of something that happened to a relative/friend/me^b
14. I was advised to for financial reasons^b
15. I feel the work of the charity is important^a
16. There is no other way to fund what the charity does^a
17. I like/want the goods^b
18. Others

Note:

^a Altruistic reasons.

^b Egoistic reasons.

All other reasons not considered due to vague relationship to motivational factors.

Appendix 2**Table A2.** Description of variables explored.

Variable	Type	Description
Donor	D ^d	Respondent donates to charity.
Donations	C ^e	Donor's donations in the last month.
Altruism	D	Respondent is altruistic.
Egoism	D	Respondent is egoistic.
HighIncome	D	Respondent is in the high income bracket, earning at least £35,000 p.a.
LowIncome	D	Respondent is in the low income bracket, earning at most £34,999 p.a.
NoIncome	D	Respondent has no income.
Male	D	Respondent is male.
Age	C	Respondent's age at time of interview.
Married	D	Respondent is married and living with spouse.
Child	D	Respondent has child(ren).
Ethn_w	D	Respondent is white.
Religious	D	Respondent is an active member of a religion.
Volunteer	D	Respondent has volunteered in the last 12 months.
Employed	D	Respondent is employed.
Manager	D	Respondent holds higher managerial position and is a professional.
Edqual_1	D	Respondent has higher degree/postgraduate qualifications.
Edqual_2	D	Respondent has first degree/postgraduate diplomas.
Edqual_3	D	Respondent has diplomas in higher education.
Edqual_4	D	Respondent has a/as levels/scottish certificate 6th year studies or equivalent.
Edqual_5	D	Respondent has trade apprenticeships.
Edqual_6	D	Respondent has good O level/gcse grades or equivalent.
Edqual_7	D	Respondent has bad O level/gcse grades or equivalent.
Edqual_8	D	Respondent has other qualifications.

^d D = Dummy Variable; Taking value 1 if corresponds to description, 0 otherwise.

^e C = Continuous Variable.

Appendix 3**Table A3.** Summary statistics of variables.

Variable	Mean	Std. Dev.	Min	Max
Donor	0.7820	0.4130	0	1
Donations	34.1965	44.8027	0.2	290
Altruism	0.5804	0.4936	0	1
Egoism	0.5889	0.4921	0	1
HighIncome	0.1209	0.3261	0	1
LowIncome	0.8594	0.3477	0	1
NoIncome	0.0197	0.1389	0	1
Male	0.4606	0.4985	0	1
Age	49.0658	16.5954	17	94
Married	0.5293	0.4992	0	1
Child	0.3332	0.4714	0	1
Ethn_w	0.7487	0.4338	0	1
Religious	0.3929	0.4885	0	1
Volunteer	0.5338	0.4989	0	1
Employed	0.5862	0.4926	0	1
Manager	0.4037	0.4907	0	1
Edqual_1	0.1380	0.3450	0	1
Edqual_2	0.2010	0.4008	0	1
Edqual_3	0.1659	0.3721	0	1
Edqual_4	0.1807	0.3849	0	1
Edqual_5	0.0334	0.1797	0	1
Edqual_6	0.2103	0.4076	0	1
Edqual_7	0.0482	0.2142	0	1
Edqual_8	0.0225	0.1482	0	1

Appendix 4

	donor	donatio	altruism	egoism	highincor	lowincor	noincome	male	age	married	child	ethn_w	relig	volun	employ	manag	edqual	edqual_2	edqual_3	edqual_4	edqual_5	edqual_6	edqual_7	edqual_8	
donor	1.00																								
donations	0.55	1.00																							
altruism	0.55	0.07	1.00																						
egoism	0.05	0.05	0.33	1.00																					
highincor	0.07	0.12	0.07	0.05	1.00																				
lowincor	-0.05	-0.12	-0.06	-0.04	-0.92	1.00																			
noincome	-0.05	0.02	-0.02	-0.02	-0.05	-0.35	1.00																		
male	-0.09	-0.03	-0.10	-0.08	0.16	-0.12	-0.08	1.00																	
age	0.01	0.05	0.03	-0.03	-0.06	0.09	-0.08	0.06	1.00																
married	0.07	0.08	0.08	0.06	0.11	-0.12	0.05	0.09	0.14	1.00															
child	0.05	0.01	-0.00	0.05	0.05	-0.07	0.05	-0.10	-0.46	0.15	1.00														
ethn_w	0.12	-0.04	0.11	0.05	0.02	0.01	-0.05	-0.02	0.24	-0.01	-0.20	1.00													
religious	0.05	0.20	0.07	0.02	-0.05	0.01	0.07	-0.11	0.11	0.12	0.03	-0.27	1.00												
volunteer	0.15	0.18	0.15	0.12	0.10	-0.09	-0.01	-0.09	-0.04	0.06	0.05	0.13	0.10	1.00											
employed	0.12	0.06	0.08	0.08	0.25	-0.17	-0.15	0.07	-0.44	0.06	0.18	-0.01	-0.12	0.12	1.00										
manager	0.11	0.17	0.12	0.07	0.32	-0.29	-0.02	0.03	0.00	0.06	-0.03	0.01	0.03	0.21	0.11	1.00									
edqual_1	0.00	0.11	0.05	-0.02	0.21	-0.18	-0.05	0.03	0.02	0.07	0.01	-0.09	0.02	0.08	0.06	0.27	1.00								
edqual_2	-0.00	0.09	-0.00	0.03	0.15	-0.14	-0.02	-0.01	0.07	0.01	-0.04	-0.04	0.04	0.11	0.03	0.28	-0.20	1.00							
edqual_3	0.03	0.02	0.07	0.05	-0.05	0.05	-0.01	-0.04	0.06	0.02	-0.01	0.01	0.03	0.02	-0.01	0.07	-0.18	-0.22	1.00						
edqual_4	0.01	-0.10	-0.01	0.00	-0.12	0.10	0.03	0.05	-0.14	-0.09	-0.03	0.05	-0.04	-0.04	-0.01	-0.19	-0.19	-0.24	-0.21	1.00					
edqual_5	-0.03	-0.08	-0.01	-0.04	-0.02	0.03	-0.03	0.13	0.14	0.06	-0.06	0.08	-0.06	-0.08	-0.04	-0.14	-0.07	-0.09	-0.08	-0.09	1.00				
edqual_6	0.01	-0.05	-0.05	0.01	-0.11	0.09	0.05	-0.07	-0.08	-0.00	0.10	0.04	-0.03	-0.09	-0.01	-0.23	-0.21	-0.26	-0.23	-0.24	-0.10	1.00			
edqual_7	-0.06	-0.02	-0.06	-0.08	-0.06	0.06	0.01	-0.04	-0.01	-0.06	0.01	0.02	-0.01	-0.05	-0.05	-0.13	-0.09	-0.11	-0.10	-0.11	-0.04	-0.12	1.00		
edqual_8	-0.01	-0.03	-0.02	-0.04	-0.06	0.06	0.01	0.03	0.05	0.01	-0.00	-0.06	0.03	-0.03	-0.02	-0.10	-0.06	-0.08	-0.07	-0.07	-0.03	-0.08	-0.03	1.00	

Table A4. Correlation Matrix of All Variables

Note:

Boxes shaded in blue means that correlation of dependent variable and explanatory variable pairs are statistically significant at 5% significance level.

Box shaded in yellow means that a strong negative correlation exists between *highincome* and *lowincome* variables.

Appendix 5

Table A5: Expectation-Prediction Evaluation for Probit Model

Success cutoff: C = 0.782			
TRUE			
Classified	D	~D	Total
+	1214	30	1244
-	129	263	392
Total	1343	293	1636

Classified + if predicted $\Pr(D) \geq .782$ True D defined as donor != 0		
-----	-----	-----
Sensitivity	Pr(+ D)	90.39%
Specificity	Pr(- ~D)	89.76%
Positive predictive value	Pr(D +)	97.59%
Negative predictive value	Pr(~D -)	67.09%
-----	-----	-----
False + rate for true ~D	Pr(+ ~D)	10.24%
False - rate for true D	Pr(- D)	9.61%
False + rate for classified +	Pr(~D +)	2.41%
False - rate for classified -	Pr(D -)	32.91%
-----	-----	-----
Correctly classified		90.28%
-----	-----	-----

0.782 is the cutoff for the constant probability model. It is the sample proportion of individuals that have donated to charity in a working sample of 2,633.

Appendix 6

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of log(donations)

$\chi^2(1) = 0.12$

Prob > $\chi^2 = 0.7269$

Conclusion: Do not reject Ho at 5% significance level, thus, residuals in OLS model is homoskedastic.

Ramsey RESET test using powers of the fitted values of log(donations)

Ho: model has no omitted variables

$F(3, 1319) = 0.71$

Prob > F = 0.5487

Conclusion: Do not reject Ho at 5% significance level, thus, model has no omitted variables.

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